FLOOD HAZARD AREA

LAND USE MANAGEMENT

GUIDELINES

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Introduction to Document and Guidelines

This document provides guidelines intended to help local governments, land-use managers and approving officers develop and implement land-use management plans and make subdivision approval decisions for flood hazard areas.

The goals of the provincial "Flood Hazard Area Land Use Management Guidelines" are to reduce or prevent injury, human trauma and loss of life, and to minimize property damage during flooding events. Experience has shown that regulating land development to keep people out of harm's way is the most practical and cost effective way of achieving these goals.

The guidelines are based on the policies and procedures established and refined over the life of the provincial flood hazard management program.

These guidelines have been prepared pursuant to section 2 of the *Environment Management Act* and must be considered by local governments in making bylaws under section 910 of the *Local Government Act*.

The guidelines are divided into five sections:

1.0 Administration – Flood Hazard Land Use Management
2.0 Flood Plain Mapping
3.0 Application – By Hazard Type
4.0 Application – Land Use Specific
5.0 Application – Implementation Measures

The Administration section details ways in which decision-makers can manage flood hazards on a broad or area-wide basis, employing strategies such as flood hazard management plans, bylaws and standards, and during the subdivision process.

The Flood Plain Mapping section details the importance and application of flood plain mapping information.

The Application sections provide the provincial requirements for different types of flooding hazards and different land uses commonly found in BC. These are **minimum** requirements that may be increased by the decision-maker depending on local circumstances.

In the absence of more site-specific studies or information, these guidelines are the recommended provincial minimum requirements for land use management in flood hazard areas.

For certain areas of the province, more site-specific information may be available for the decision-maker's consideration. Sources of site-specific information that may supplement the guidelines include:

- Historical records and descriptions, particularly of previous flooding events at a specific location;
- Flood hazard delineation or management studies;
- Flood plain mapping;
- Engineering and other studies;
- Local government planning documents, such as Official Community Plans and bylaws; and
- Covenants, at the site or in the vicinity.

A survey showing flood hazard management information for individual local governments can be found on the ministry Flood Hazard Management website at: http://wlapwww.gov.bc.ca/wat/flood/index.html. The documents may be viewed at the local government office. Other studies or documents may be available from local governments or from the ministry.

In addition, new site-specific studies containing professional evaluation, advice and recommendations including mapping, may be required where the risk to life and property is high, where advice is required to meet provincial flood hazard management guidelines or where modified or new protective works are proposed.

1.0 Administration - Flood Hazard Land Use Management

Local governments should consider broad flood hazard management tools to ensure that future land use will be planned and buildings constructed in a manner that will reduce or prevent injury, human trauma and loss of life, and to minimize property damage during flood events.

Appropriate land use management requirements should be included by the statutory decision-maker at certain stages in the planning process. These include:

1.1 Official Community Plans

Official Community Plans (OCPs) must contain general land use policy statements and maps respecting restrictions on the use of land that is subject to hazardous conditions. OCPs should include statements that endorse and emphasize the need to manage development in flood prone areas in order to reduce impacts on people and property.

Under the provisions of section 877 of the *Local Government Act*, plan policies and a hazard schedule are required. See example F[illegible] Appendix B.

1.2 Bylaws and Development Permits

Flood protection measures can be applied to new buildings, manufactured homes and units, modular homes or structures on existing lots. These measures may be incorporated into local government bylaws and decisions under the authority of:

1.2.1 Section 910 of the *Local Government Act,* where a local government may adopt a flood plain bylaw that designates an area as a flood plain, specifies development levels and setback requirements in a designated area and enforces these conditions.

1.2.2 Section 919.1 of the *Local Government Act*, where development permit areas may be designated in an OCP for the protection of development from hazardous conditions.

1.2.3 Section 920 of the *Local Government A*ct, where a development permit area has been designated under the provisions of section 919.1 of the *Local Government Act,* a development permit may specify areas of land that may be subject to flooding, mud flows, torrents of debris, erosion or tsunami that must remain free of development except in accordance with any conditions contained in the permit.

1.2.4 Section 903 of the *Local Government Act* where zoning bylaws partition a municipality into sections for different land use purposes. Section 903 can regulate

parcel configuration, the density of the land use, siting and standards of buildings and structures. These bylaws have been used historically for flood hazard areas to ensure public safety is maintained. However it is preferable that a section 910 bylaw be used.

1.2.5 Section 694 of the *Local Government Act*, where local building regulations are established or under section 699 where the building inspector considers that construction would be subject to flooding, and flood proofing conditions are not established under 1.2.1 to 1.2.5 above.

A sample bylaw format is provided in Form 2 in Appendix B.

1.3 Requests for Modification of Bylaws

Subject to review by and if acceptable to the local government, a flood plain bylaw may be modified. The local government may alter any bylaw condition to best match the flood hazard provided the level of protection is not altered. This discretion extends to the reduction of elevation requirements, where flood plain mapping exists, by the freeboard, provided the subject property is in the flood plain fringe area and there are no major erosion or channel avulsion hazards in the immediate vicinity.

Prior to agreeing to a modification, other exceptions in the surrounding area should be reviewed to ensure consistency and a summary report prepared. Review by the local government may not support modification on technical grounds but the applicant may nevertheless have demonstrated a hardship.

Setback requirements should not be reduced unless a serious hardship exists and no other reasonable option is available. A valid hardship should only be recognized where the physical characteristics of the lot (e.g., exposed bedrock, steep slope, the presence of a watercourse, etc.) and size of the lot are such that building development proposals, consistent with land use zoning bylaws, cannot occur unless the requirements are reduced.

In order to avoid setting difficult precedents these site characteristics should be unique to the subject property and environs. The economic circumstances or design and siting preferences of the owner should not be considered as grounds for hardship. Before agreeing to a modification, consideration should be given to other options such as the use of alternate building sites, construction techniques and designs (e.g., constructing an additional storey and thereby reducing the size of the 'building footprint').

1.4 Subdivision Approval Process

Under the provisions of section 86 of the *Land Title Act*, the approving officer -- when approving a subdivision which may be subject to flooding or erosion -- may require an

engineering report certifying that the land may be used safely for the intended purpose and/or require the subdivider to enter into a covenant under section 219 of the *Land Title Act* to establish flood plain requirements. Similar provisions are available under the *Strata Property Act* and the Bare Land Strata Regulations.

A section 219 covenant is to be registered under the *Land Title Act* and standard covenant formats are shown by Form 3 and Form 4 in Appendix B. Covenant conditions can be established as per Form 5 or where a bare land strata approval is involved, Form 6.

Where the land proposed to be subdivided may not be used safely an approving officer may withhold consent to approve a proposed subdivision. A form letter for this purpose is provided in Form 7 (See section 1.9).

1.5 Covenant Measures

Where consent for approval of subdivision of flood prone land is sought, the proponent may be required to register a restrictive covenant against the title of the property under section 219 of the *Land Title Act*. It is recommended that the covenant specify conditions that would enable the land to be safely used for the use intended. In addition, the following conditions should be included:

1.5.1 Waiver of Liability

1.5.1.1 Where an approving officer gives consent for approval of subdivision of flood prone land, it is recommended that the owner of the land enter into a covenant, to be registered against the land title, requiring flood proofing of buildings and a waiver of liability in favour of the local government and/or the provincial government in the event of any damage caused by flooding or erosion.

1.5.1.2 The waiver procedure may also be requested in considering requests for amendment of flood proofing bylaws in order to permit construction of a building on a legally existing lot, when such reduction gives reasonable grounds for concern in relation to the flood hazard in the area.

1.5.1.3 Where a situation arises in which consent to subdivision would normally be refused due to a high flooding hazard, but it is nevertheless deemed appropriate to allow the subdivision due to extenuating circumstances, consideration should be given to requiring the 'waiver' clause to cover the existing buildings. This would need to be expressly identified and expressed in the conditions of consent.

1.5.2 Priority Charge

Covenant conditions are to be registered with priority over any financial charges requested against the property.

Priority charges are executed through the use of the "Consent and Priority Agreement," and must be signed by prior charges and all parties to the subsequent charge. This Agreement is included in both Form 3 and Form 4 in Appendix B.

1.5.3 Covenant Modification Agreements

A covenant modification agreement is provided in Form 8 in Appendix B.

1.5.4 Affidavit for Witness

An affidavit for witness to a covenant or modification agreement is only required where requested by the grantor. Therefore, it is only necessary to make such arrangement if requested.

1.6 Requests for Modification of Floodproofing Covenants

Subject to review by and if acceptable to, the approving officer and all parties signatory to the covenant, a covenant may be modified. The approving officer may modify any covenant to best match the flood hazard provided the level of protection is not altered. This discretion extends to the reduction of elevation requirements, where flood plain mapping exists, by the freeboard, provided the subject property is in the flood plain fringe area and there are no major erosion or channel avulsion hazards in the immediate vicinity.

Prior to agreeing to a modification, other exceptions in the surrounding area should be reviewed to ensure consistency and a summary report prepared. Review by the approving officer may not support relaxation on technical grounds but the applicant may nevertheless have demonstrated a hardship.

Setback requirements should not be reduced unless a serious hardship exists and no other reasonable option is available. A valid hardship should only be recognized where the physical characteristics of the lot (e.g., exposed bedrock, steep slope, the presence of a watercourse, etc.) and size of the lot are such that building development proposals, consistent with land use zoning bylaws, cannot occur unless the requirements are reduced.

In order to avoid setting difficult precedents these site characteristics should be unique to the subject property and environs. The economic circumstances or design and siting preferences of the owner should not be considered as grounds for hardship. Before agreeing to a modification, consideration should be given to other options such as the use of alternate building sites, construction techniques and designs (e.g., constructing an additional storey and thereby reducing the size of the 'building footprint').

1.7 Crown Land Dispositions

Under the provisions of section 11 of the *Land Act* and provincial "Flood Hazard Area Land Use Management Guidelines", conditions are established for attachment to leases and other dispositions, see Form 9 in Appendix B.

1.8 Miscellaneous Administrative Measures

1.8.1 Replot of Lot Lines and Consolidation

1.8.1.1 Where a replot of lot lines is considered to be a technical adjustment and does not increase the buildable sites within the flood plain, then the local government flood plain requirements will apply. The provincial guidelines are stated for information purposes on the restrictive covenant. See Form 10 in Appendix B.

Where a subdivision plan creating a new lot occurs, and this lot is subsequently consolidated with another lot, then flood proofing conditions should be attached to the land title of the subdivided parcels and the separate parcel prior to consolidation.

1.8.1.2 The Registrar of Land Titles may accept a reference or an explanatory plan without an accompanying description, where a new parcel is created by the consolidation of adjoining surveyed parcels. As such, the plan does not require approval of the approving officer and, therefore, may not require the attachment of covenant requirements under the provisions of section 86 of the *Land Title Act*.

1.8.2 Benchmarks

Where an approving officer considers a geodetic elevation necessary, the installation of benchmarks may be a condition of consent to subdivision approval in order to assist in the on-site determination of the Flood Construction Level.

1.8.3 Accretions

The applicable flood hazard requirements should apply to any naturally accreted land that has been legally obtained by the upland waterfront property owner.

1.9 Refusal to Consent

A decision maker may withhold consent to a proposed subdivision, bylaw amendment or Crown land disposition where hazard to 'life and limb' exists and cannot be practically alleviated by structural works maintained by the local government and/or flood proofing.

Examples of situations where consent may be withheld, include proposals located:

- In the floodway,
- In the path of a major channel avulsion,
- In the path of a debris flow,
- In an active erosion area,
- Where flood depths exceed 2.5 metres,
- Where flood velocities exceed 1.0 metre per second, and/or
- Where the provision of safe access and egress is not possible.

2.0 Flood Plain Mapping

Local governments must consider relevant flood plain mapping information in making bylaws under section 910 of the *Local Government Act*, as well as in making related decisions regarding flood hazards, including the establishment of Flood Construction Levels. As such, available flood plain mapping information is incorporated into and forms a part of these Guidelines.

A flood plain map delineates the area that can be expected to flood, on average, once every 200 years (called the 200-year flood). It should be noted that:

- A 200-year flood can occur at any time in any given year,
- The indicated flood level may be exceeded, and
- Portions of the flood plain can flood more frequently.

Flood plain maps show the location of the normal channel of a watercourse, surrounding features or development, ground elevations contours, flood levels and flood plain limits (the estimated elevation and horizontal extent of the high water marks of a 200-year flood).

Flood plain mapping information is available for many settled areas of the province. To access information on availability, including links to on-line maps and ordering instructions, visit the following web site: http://srmwww.gov.bc.ca/aib/fpm/index.html

Determination of Designated Flood Levels

The magnitude and water levels associated with the designated flood are determined for each river by using survey and hydrological data.

The magnitude of the designated flood is determined by frequency analysis of past floods supplemented by regional runoff data when required. The water surface profile is then calculated for the designated flood.

The flood plain is delineated by the translation of the flood profile plus freeboard allowance to base mapping to produce the finished flood plain maps.

Historical context

Many of the flood plain maps presently available were developed under a provincial-federal program. The Flood Plain Mapping Program was delivered under the Canada - British Columbia Agreement Respecting Floodplain Mapping from 1987 to 2003. The agreement marked an acceleration of a provincial mapping program that commenced in 1974. Following is a summary of the objectives of the agreement.

The Agreement:

- Restricted both governments from further undertakings (including construction of, or a major addition to, structures or a change in the use of land) in areas that are vulnerable to flooding and are located in designated flood plains;
- Discouraged financial assistance for development of undertakings in flood-prone areas;
- Accommodated measures to encourage local authorities to restrict undertakings in flood-prone areas under their jurisdiction; and
- Required adequate flood proofing measures to have been incorporated into new development in a flood plain after designation to be eligible for disaster assistance.

Other maps, developed under different processes, may be available.

For further information regarding flood plain mapping, please to refer to the web site noted above.

3.0 Application - By Hazard Type

Where relevant flood plain maps, and other relevant flood hazard-related information (such as covenants, bylaws, flood hazard maps and engineering reports) exist, they must be considered.

Where such information is not available, the following minimum requirements should be considered to guide development away from higher flood hazard areas and to allow development to proceed in a safe manner in lower risk areas. These minimum requirements should be registered against the land title as a covenant at the time of subdivision, and/or should be incorporated into local government bylaws.

The following guidelines include recommended minimum flood plain setbacks and flood construction levels.

Flood plain setbacks are established to keep development away from areas of potential erosion and avoid restricting the flow capacity of the floodway. Keeping the floodway clear of development can reduce the risk of damage to neighbouring properties and reduce disruptions to natural river processes, leading to a more balanced and economical approach to managing flood prone areas. Setbacks are measured from the natural boundary unless otherwise specified.

Flood Construction Levels (FCLs) are used to keep living spaces and areas used for the storage of goods damageable by floodwaters above flood levels. In some locations FCLs have been established. Otherwise FCLs are typically referenced as an elevation above the natural boundary.

In cases where the FCL has been determined, it should be taken into consideration, together with an appropriate setback requirement.

The designated flood, and the designated flood level, are used in determining the FCL.

The designated flood means a flood which may occur in any given year, of such magnitude as to equal a flood having a 200-year recurrence interval, based on a frequency analysis of unregulated historic flood records or by regional analysis where there is inadequate streamflow data available.

A designated flood level is the observed or calculated water surface elevation for the designated flood and is used to determine the Flood Construction Level.

In the absence of more site-specific studies or information, these guidelines are the recommended provincial minimum requirements for land use management in flood hazard areas.

3.1 Lakes, Ponds, Marsh Areas and Reservoirs

3.1.1 Lakes

Setback –

Buildings, manufactured homes or units, modular homes or structures (referred to as "buildings" in all subsequent clauses) should be setback at least 15 metres from the natural boundary of any lake.

FCL where a designated flood level has been determined –

Areas used for habitation, business, or storage of goods damageable by floodwaters should be constructed within any building at an elevation such that the underside of the floor system thereof is no lower than the designated flood level of the lake plus freeboard allowance.

FCL where a designated flood level has not been determined –

The FCL for lakes over 15 kilometres in length should be 3.0 metres above the natural boundary of the lake, or any pond, backwater, slough, swamp or marsh area affected by the lake.

3.1.2 Small Lakes, Ponds, Swamps and Marsh Areas

Where a lake is less than 15 kilometres in length and where there is no history of severe flooding or concern for shoreline erosion, and for ponds, swamps or marsh areas:

Setback –

Buildings should be setback at least 7.5 metres from the natural boundary of the lake, pond, swamp or marsh.

FCL –

The elevation requirement may be reduced to 1.5 metres above the natural boundary of the lake, pond or adjacent swamp or marsh area.

3.1.3 Bluffs

Setback –

Where the building site is at the top of a steep bluff and where the toe of the bluff is subject to erosion and/or is closer than 15 metres from the natural boundary, the setback

should be a horizontal distance equal to 3.0 times the height of the bluff as measured from the toe of the bluff.

For practical application, this setback condition will require site-specific interpretation and could result in the use of a minimum distance measured back from the crest of the bluff. This setback may be reduced provided the reduction is supported by a report prepared by a suitably qualified professional.

3.1.4 Reservoirs

Setback –

The setback requirements regarding lakes, ponds and marsh areas (clauses 3.1.1, 3.1.2 and 3.1.3) should generally apply to reservoirs. Some reservoirs have established 'safe lines' in their operating plans that may be used to establish the setback, or site-specific analysis may be required. For larger reservoirs, specific setbacks are established.

FCL –

For smaller reservoirs, the FCL is either an elevation of 1.5 metres above the crest of the spillway or is 0.6 metres above the crest of the dam, whichever is greater. For larger reservoirs, reservoir specific FCLs are established.

3.2 Watercourses

It should be noted that the natural boundary for watercourses includes the best estimate of the edge of dormant or old side channels (see definition in Appendix A).

3.2.1 Standard requirements for ordinary watercourses

Setback –

Buildings should be setback at least 30 metres from the natural boundary of any watercourse, except as noted in sections 3.2.2 to 3.2.8 below.

Where standard dikes exist, setbacks shall be as noted in section 3.6 of these guidelines. Where non-standard dikes exist, setbacks should be developed in consultation with the Inspector of Dikes in order to provide right-of-way for any future dike improvements and/or access.

FCL where a designated flood level has been determined –

Areas used for habitation, business, or storage of goods damageable by floodwaters should be constructed within any building at an elevation such that the underside of the floor system thereof is no less than the Flood Construction Level.

FCL where a designated flood level has not been determined –

The Flood Construction Level should be no lower than 3.0 metres above the natural boundary of any nearby watercourse, except as allowed in section 3.2.3 and 3.2.4.

3.2.2 Increased Requirements for ordinary watercourses

The requirements for a watercourse may be increased where a watercourse has demonstrated extensive flooding and/ or has significant bank erosion and/or depth of flooding:

Setback–

The setback requirements may be increased to an amount greater than 30 metres.

FCL –

The elevation of areas used for habitation, business, or storage of goods damageable by floodwaters should be established within any building at an elevation greater than 3.0 metres above the natural boundary of the watercourse.

3.2.3 Requirements for Smaller Streams

The requirements for small streams may be reduced where the following conditions exist:

- Sufficient discharge records are available to establish the designated flood and/or the designated flood can be otherwise estimated as less than 80 cubic metres per second, and
- The watercourse has no significant history of flooding and/or bank erosion, and/or
- The watercourse is not located on an alluvial or colluvial fan, and/or
- It is deemed appropriate by an approving officer.

Setback –

The setback requirement may be reduced to 15 metres from the natural boundary of the watercourse provided the floodway is not obstructed.

FCL –

The elevation of areas used for habitation, business, or storage of goods damageable by floodwaters should be established within any building at an elevation greater than 1.5 metres above the natural boundary of the watercourse.

3.2.4 Requirements for Very Small Streams

For streams not meeting the definition of "watercourse" and where there is no history of flooding and/or bank erosion and where the watercourse is not located on an alluvial or colluvial fan, the setback and FCL requirements shall be at the discretion of the approving officer.

3.2.5 Decreased Requirements for ordinary watercourses

Setback and FCL –

The requirements for may be reduced where the following conditions exist:

- Sufficient discharge records are available to establish the designated flood and/or the designated flood can be otherwise estimated as greater than 80 cubic metres per second, and
- The watercourse has no significant history of flooding and/or bank erosion, and/or
- The watercourse is not located on an alluvial or colluvial fan, and/or
- It is deemed appropriate by an approving officer.

3.2.6 Downstream of Dams

Setback –

Dam upgrading or development restrictions may be necessary if a development proposal increases the Land and Water BC (LWBC) hazard consequence classification for low, high and very high consequence dams (other than dams owned and operated by a major utility). The requirements should be determined on a site-specific basis by a professional engineer in consultation with the dam owner and LWBC.

Clauses 3.2.1 to 3.2.4 should apply downstream of dams rated with a very low consequence classification as determined by LWBC.

3.2.7 Culverts and Bridges

Setback –

Use setbacks specified for the size of the watercourse in question.

FCL –

Where, in the opinion of an approving officer, culverts and bridges immediately downstream of a subject property may become obstructed in times of flood and cause ponding upstream of the bridge or culvert, the FCL for the property should be a minimum of 0.3 metres above the crown of the road.

Where road fills and culverts exist that, if obstructed, may result in significant impoundments and/or serious failure and flooding, consideration should be given to engaging a Professional Engineer to assess the risk and provide site-specific flood protection measures for the downstream property(s).

3.2.8 Meandering and Braided Streams

Setback –

Setback requirements should, at a minimum, meet the requirements noted above for the watercourse size and situation. Where the meandering or braiding is significant, consideration should be given to having the requirements determined on a site-specific basis by a suitably qualified professional.

FCL –

Building levels should be set in accordance with requirements detailed in clauses 3.2.1 through 3.2.7.

3.3 Alluvial Fans

Where possible, development of alluvial fans should be discouraged, and the land should be retained in non-intensive uses such as parks, open-space recreation, and agricultural uses.

3.3.1 Standard Requirements

Consent to develop may be granted by an approving officer:

- Where there is no alternative land available, and
- Where an area of an alluvial fan can be shown to be stable because of hydraulic, physical and/or geological conditions.

This approval should be subject to hazard management and flood proofing requirements determined on a site-specific basis. Such requirements may include but are not limited to:

- Development density regulations,
- The identification of the safe building site(s),
- Building elevation and foundation design requirements,
- The construction of on-site and/or off-site protective works, and
- Land use regulations to prevent the alteration of the terrain and features such as landfills, excavations and the construction of new roads and utilities that would alter the hazard rating for the land.

Where a study of the flooding hazard is not available and the hazard is considered significant, an assessment of the land by a suitably qualified professional should be required.

If consent to develop on an alluvial fan is granted:

Setback –

The setback should be determined in accordance with clauses 3.2.1, 3.2.2 and 3.2.8.

FCL –

Where the hazard is low, the building should be elevated a minimum of 1.0 metres above the general elevation of the surrounding ground on concrete foundation and protected from scour.

3.3.2 Training Works to Protect One Property

Where protective works are to be constructed, an Operations and Maintenance Manual should be prepared, access easements and/or right of ways established and an ongoing maintenance program established prior to final development approval. Works are to be designed by a professional engineer. A professional engineer must certify constructed works. See section 5.7 Training Works.

An ongoing maintenance program may be assured through the addition of relevant requirements to the standard flood proofing covenant specified under section 219 of the *Land Title Act*, if the training works are

- Built on private property, and
- Intended to protect only the property of the person (including a strata corporation) owning the training works and the property on which they are located.

3.3.3 Training Works to Protect Multiple Properties

If the training works, when constructed, will protect multiple properties of more than one person, then an ongoing operation and maintenance program and access to structures must be assured by the local government. Works are to be designed by a professional engineer. A professional engineer must certify constructed works. In addition, the training works require the approval of the Inspector of Dikes and, therefore, that office must be contacted for the requirements and approvals. See section 5.7 Training Works.

Approvals under the provincial *Water Act* and federal *Fisheries Act* are also normally required. Local government may also have other requirements.

3.4 Areas Subject to Debris Flows

Development should be discouraged in areas where local knowledge, experience or studies indicate concern that there may be a debris flow hazard.

3.4.1 Professional Evaluation

Consent to develop may be granted, with standard requirements as established for alluvial fans in section 3.3, where:

- There is no other land available, and
- Where an assessment of the land by a suitably qualified professional indicates that development may occur safely.

See section 5.7 Training Works.

3.5 The Sea

It should be noted that the natural boundary for coastal areas includes the natural limit of permanent terrestrial vegetation.

3.5.1 Strait of Georgia

3.5.1.1 *Standard Requirements*

Setback --

Buildings should be setback 15 metres from the natural boundary of the sea.

Landfill or structural support for a coastal development or type of development shall be permitted a setback of 7.5 metres from the natural boundary of the sea where the sea frontage is protected from erosion by a natural bedrock formation or works designed by a professional engineer and maintained by the owner of the land.

In the case of subdivision the setback should not be reduced unless each building site is located on non-erodible bedrock or local government assumes the maintenance responsibility for works designed by a professional engineer.

The setback may be increased on a site-specific basis such as for exposed erodible beaches and/or in areas of known erosion hazard.

FCL –

The FCL shall be at least 1.5 metres above the natural boundary of the sea, and higher than any Flood Construction Level established for specific coastal areas.

3.5.1.2 *Requirements for Coastal Bluffs*

Setback –

Where the building site is at the top of a steep coastal bluff and where the toe of the bluff is subject to erosion and/or is closer than 15 metres from the natural boundary of the sea, the setback shall be a horizontal distance equal to 3.0 times the height of the bluff as measured from the toe of the bluff.

For practical application, this setback condition will require site-specific interpretation and could result in the use of a minimum distance measured back from the crest of the bluff. This setback may be reduced provided the reduction is supported by a report prepared by a suitably qualified professional.

3.5.1.3 *Requirements for Existing Coastal Lots*

Setback –

In the case of the existing lots, where the above setback distances prevent construction, and where it is not possible to provide sufficient protection through works designed by a suitably qualified professional, the approving officer may agree to modifying setback requirements to permit construction provided this is augmented through a restrictive covenant stipulating the hazard, building requirements, and liability disclaimer.

3.5.2 Outside the Strait of Georgia Area

A subdivision application in tsunami prone areas must include a report by a suitably qualified professional who must formulate safe building conditions for each proposed lot based on a review of a summary report titled "Evaluation of Tsunami Levels Along the British Columbia Coast", by Seaconsult Marine Research Ltd., dated March 1988. At a minimum, building conditions should protect improvements from damage from a tsunami of equal magnitude to the March 28,1964 tsunami that resulted from the Prince William Sound, Alaska earthquake.

Setback –

Setback requirements should be established on a site-specific basis and take into account tsunami hazards.

Setback from the natural boundary of the sea must be sufficient to protect buildings and must be at least 30 metres.

FCL –

FCL requirements should be established on a site-specific basis and take into account tsunami hazards.

Reductions to these requirements should only be considered where the building can be built to the FCL on bedrock.

3.6 Areas Protected by Standard Dikes

Residential, commercial and institutional developments in areas protected by standard dikes are required to comply with full flood proofing requirements for their respective categories.

Setback –

Buildings should be located a minimum of 7.5 metres away from any structure for flood protection or seepage control or any dike right-of-way used for protection works. In addition, fill for floodproofing should not be placed within 7.5 metres of the inboard toe of any structure for flood protection or seepage control or the inboard side of any dike right-of-way used for protection works.

Any change to these conditions requires the approval of the Inspector of Dikes.

FCL –

Buildings and manufactured homes in areas protected by standard dikes should meet minimum FCLs prescribed for the primary stream, lake or sea adjacent to the dike and the FCL requirements for any internal drainage (minimum ponding elevations).

3.6.1 Secondary sources of flooding

Where there are secondary sources of flooding within diked areas, the appropriate requirements as set out in Clauses 3.1 through 3.5 should be applied. These should include consideration of minimum ponding elevations behind the dike to protect against internal drainage.

4.0 Application - Land Use Specific

Where relevant flood plain mapping information and other flood hazard-related information (such as covenants, bylaws, flood hazard maps and engineering reports) exist, they must be considered. Where the province has provided local governments with written documents and/or agreements approving floodproofing conditions that are different from these guidelines, such approved floodproofing conditions are acceptable and are incorporated as part of these Guidelines for the area referenced in those documents.

Where such information is not available, the following minimum requirements should be considered to guide development away from high hazard areas and to allow development to proceed in a safe manner. These minimum requirements should be placed in the form of a covenant against land titles at the time of subdivision, and/or should be incorporated into local government bylaws.

4.1 Agriculture

4.1.1 Farm Dwellings

Whether or not the area is diked, the following guidelines apply.

Setback –

Setback requirements, based on hazard type as identified in section 3.0, shall apply.

FCL –

Farm dwelling units on parcel sizes 8.0 hectares, or greater, located within the Agricultural Land Reserve, shall be located with the underside of a wooden floor system or the top of the pad of any habitable area (or in the case of a manufactured home the top of pad or the ground surface on which it is located) no lower than 1.0 metre above the natural ground elevation taken at any point on the perimeter of the building.

4.1.1.1 *Where required flood proofing is impractical*

When establishing conditions for areas within the Agricultural Land Reserve, where required flood proofing is impractical (i.e., greater than 2.5 metres elevation) and where protection is provided by standard dikes, owners of existing parcels of land may be given the option of adopting full flood proofing or adopting an elevation which will provide protection against drainage problems associated with storm conditions (minimum ponding elevation). In return owners must agree to a waiver of financial assistance in the case of flood damage to be registered as a covenant against the land title.

Subdivision in areas of flooding depth greater than 2.5 metres requires that the applicant demonstrate how full flood proofing can be achieved. Agricultural Land Reserve lands which are subdivided under Homesite Severance may be required to have a small parcel less than 8.0 hectares. When such subdivision occurs, each lot created is subject to these guidelines including the remainder.

4.1.2 Livestock Housing

Setback –

Setback requirements, based on hazard type as identified in section 3.0, shall apply.

FCL –

Open-sided livestock structures do not require flood proofing by elevation.

Close-sided livestock buildings behind standard dikes do not require flood proofing by elevation.

Closed-sided livestock housing not behind standard dikes shall be located with the underside of the wooden floor system or the top of the pad (or in the case of a manufactured home the top of pad or the ground surface on which it is located) no lower than 1.0 metre above the natural ground elevation taken at any point on the perimeter of the building.

4.1.3 Other Farm Buildings

Setback –

Setback requirements, based on hazard type as identified in section 3.0, shall apply.

FCL –

Flood proofing by elevation is left to discretion of the owner.

4.2 Public Recreation, Institutional Buildings, Parks and Open Space

Setback –

Setback requirements, based on hazard type as identified in section 3.0, shall apply to all structures in this category.

FCL –

Institutional and closed-sided recreational buildings and/or equipment damageable by floodwaters require full flood proofing.

Recreation shelters, stands, campsite washhouses and other outdoor facilities susceptible to only marginal damage by floodwaters do not require flood proofing by elevation.

4.3 Industrial Areas

Setback –

Setback requirements, based on hazard type as identified in section 3.0, shall apply.

Industrial buildings may be granted special relief from this requirement. Setback requirements for certain industrial activities, such as on-loading and off-loading facilities, where the use of the waterfront is a necessary subsidiary part of the operation and would not adversely affect a floodway or significantly increase flood elevations, may be reduced.

FCL –

Industrial uses, other than main electrical switchgear, shall be located with the underside of a wooden floor system or the top of the pad (or in the case of a manufactured home the top of pad or the ground surface on which it is located) no lower than the FCL minus freeboard. Main electrical switchgear shall be no lower than the FCL.

Elevations noted in guidelines should be used for the installation of fixed equipment susceptible to damage by floodwaters. An exception may be made if a suitably qualified professional determines that appropriate measures can be and are taken to provide protection against damage by flooding and erosion. The approving officer reviewing a proposed subdivision plan must approve this exception.

On-loading and off-loading facilities associated with water-oriented industry and portable sawmills do not require floodproofing. Heavy industrial development located behind a standard dike does not require floodproofing.

4.4 Fish Farms

Setback and FCL –

All facilities should meet setback conditions and be flood proofed to the FCL. Where standard dikes protect fish farm facilities, flood proofing is only required relative to any secondary flooding hazard.

4.5 Ancillary Buildings, Carports, Garages, Entryways and Renovations to Existing Buildings

FCL –

Requirements for flood proofing through the use of elevation may be waived for:

- A renovation of an existing building or structure that does not involve an addition,
- That portion of a building or structure that is to be used as a carport, garage or entryway,
- Other minor buildings such as storage buildings, porches and domestic greenhouses.

4.6 Additions to Existing Buildings

Where a building or structure is legally non-conforming with the floodproofing requirements set out in any pertinent bylaw or covenant, it is acceptable to allow an addition, at the original non-conforming floor elevation, that would increase the size of the building or structure by less than 25 percent of the floor area existing at the time of enactment of such floodproofing requirements, provided that the degree of nonconformity regarding setback is not increased.

4.7 Lots Existing Prior to Bylaw Adoption

Where a lot existed prior to the date of adoption of a bylaw, and is protected by a standard dike, and where the difference between the Flood Construction Level and the ground elevation exceeds 2.5 metres, and where the owner has entered into a restrictive covenant with the local government [This covenant should be drawn up by the local government legal advisor], a building may be constructed, reconstructed, moved or extended and a manufactured home or unit, modular home or structure may be located with the underside of the floor system of any area used for habitation, business or storage of goods damageable by floodwaters to a minimum elevation of two point five (2.5) metres above the average ground elevation in the vicinity of the building site nor less than the minimum ponding elevation established for local drainage behind the dike, which ever elevation is higher.

> *Note: The actual required building elevation referenced to geodetic datum will therefore vary from site to site, depending on ground elevation.*

5.0 Application - Implementation Measures

In addition to the requirements set out in sections 3.0 and 4.0, the following general conditions should apply and be included in a subdivision covenant or local authority bylaw, where applicable.

5.1 Manufactured Homes or Units

Setback –

Setback requirements, based on hazard type as identified in section 3.0, shall apply.

FCL –

Manufactured homes or units should be located on a natural ground surface or on the top of a concrete or asphalt pad that is at or above the Flood Construction Level. An exception may be made where a manufactured home or unit is located on, and secured to, a poured-in-place concrete perimeter footing, in which case the FCL shall apply to the top of the footing wall.

5.2 Furnaces, Electrical and Other Fixed Equipment

FCL –

Areas below the FCL should not used for the installation of furnaces, major electrical switchgear, or other fixed equipment susceptible to damage by floodwater.

An exception to this guideline is where standard dikes provide building protection. In these cases furnaces and hot water heaters are permitted below the FCL, but main electrical switchgear should be placed above the FCL.

5.3 Parking

Setback–

Setback requirements, based on hazard type as identified in section 3.0, shall apply.

FCL –

As vehicles can be moved to higher ground, floodproofing may not be necessary to prevent damage from floodwater for parking areas, including enclosed underground parking areas, except that, in the case of an enclosed underground parking area, an

unobstructed means of pedestrian ingress and egress must be provided above the FCL. In addition, signs must be posted at all points of entry notifying users that the parking garage is not protected from inundation by floodwaters.

5.4 Elevation by Landfill

Where landfill is used to raise the natural ground elevation, it should be adequately compacted and the toe of the landfill slope should be no closer to the natural boundary than the prescribed setback. In addition, the face of the landfill slope should be adequately protected against erosion from flood flows, wave action, ice or other debris.

The fill must not adversely impact neighbouring properties by increasing the surface water elevation or directing flows toward those properties.

5.5 Depth of Flooding

Subdivision in areas of flooding depth greater than 2.5 metres requires that the applicant demonstrate how full flood proofing can be achieved and how safe ingress and egress can be achieved during the flood.

5.6 Flood Velocities

Subdivision in areas where flood velocities are in excess of 1.0 metre per second requires that the applicant demonstrate how safe ingress and egress can be achieved during the flood.

5.7 Training Works

An approving officer should require details of the design, construction, operation and maintenance of training works prior to final approval of a subdivision. Works are to be designed by a professional engineer. A professional engineer must certify constructed works.

5.7.1 Training Works to Protect One Property

An ongoing maintenance program may be assured through the addition of relevant requirements to the standard flood proofing covenant registered under section 219 of the *Land Title Act*, if the training works are:

- Built on private property, and
- Intended to protect only the property of the person (including a strata corporation) owning the training works and the property on which they are located.

5.7.2 Training Works to Protect Multiple Properties

If the training works, when constructed, will protect multiple properties of more than one person, then an ongoing operation and maintenance program and registered easements and access to structures must be assured by the local government. In addition, the training works require the approval of the Inspector of Dikes and, therefore, that office must be contacted for the requirements and approvals.

Approvals under the provincial *Water Act* and federal *Fisheries Act* are also normally required. Local government may also have other requirements.

An approved Operation and Maintenance manual for the local government is to be prepared as a condition of subdivision approval and a copy is to be sent to the Inspector of Dikes.

5.8 Erosion Protection Works

Where erosion protection works are required, an approving officer should require details of the design, construction, operation and maintenance of erosion protection works prior to final approval of a subdivision or a relaxation of the requirements in a covenant. Works are to be designed by a professional engineer. A professional engineer must certify constructed works.

5.8.1 Erosion Protection Works to Protect One Property

An ongoing maintenance program may be assured through the addition of relevant requirements to the standard flood proofing covenant registered under section 219 of the *Land Title Act*, if the erosion protection works are:

- Built on private property, and
- Intended to protect only the property of the person (including a strata corporation) owning the erosion protection works and the property on which they are located.

5.8.2 Erosion Protection Works to Protect Multiple Properties

If the erosion protection works, when constructed, will protect multiple properties of more than one person, then an ongoing operation and maintenance program and registered easements and access to structures must be assured by the local government.

Approvals under the provincial *Water Act* and federal *Fisheries Act* are also normally required. Local government may also have other requirements.

An approved Operation and Maintenance manual for the local government is to be prepared as a condition of approval.

APPENDIX A - Definitions

Alluvial Fan - The alluvial deposit of a stream where the stream issues from a steep mountain valley or gorge upon a plain or at the junction of a tributary stream with the main stream.

Approving Officer - The appropriate person appointed under the *Land Title Act.*

Commercial Use - A use providing for the sale or rental of goods or services, for personal services, or for the servicing and repair of goods; and includes retail sales, wholesaling in conjunction with retail sales, commercial and government offices, personal services, commercial schools, household services and household repairs.

Debris Flow - The rapid downslope movement descending steep pre-existing drainage channels of water-saturated soil and debris by true flow processes.

Designated Flood - A flood, which may occur in any given year, of such magnitude as to equal a flood having a 200-year recurrence interval, based on a frequency analysis of unregulated historic flood records or by regional analysis where there is inadequate streamflow data available. Where the flow of a large watercourse is controlled by a major dam, the designated flood shall be set on a site-specific basis.

Designated Flood Level - The observed or calculated elevation for the Designated Flood and is used in the calculation of the Flood Construction Level.

Disposition - Disposition of Crown land by certificate of purchase, grant, lease, licence of occupation, right-of-way, or easement under the *Land Act.*

Flood Construction Level - The Designated Flood Level plus the allowance for freeboard and is used to establish the elevation of the underside of a wooden floor system or top of concrete slab for habitable buildings. In the case of a manufactured home, the ground level or top of concrete or asphalt pad, on which it is located shall be equal to or higher than the above described elevation. It also establishes the minimum crest level of a Standard Dike. Where the Designated Flood level cannot be determined or where there are overriding factors, an assessed height above the natural boundary of the water-body or above the natural ground elevation may be used.

Flood plain - A lowland area, whether diked, flood proofed, or not which, by reasons of land elevation, is susceptible to flooding from an adjoining watercourse, ocean, lake or other body of water and for administration purposes is taken to be that area submerged by the Designated Flood plus freeboard.

Flood proofing - The alteration of land or structures either physically or in use to reduce flood damage and includes the use of building setbacks from water bodies to maintain a

floodway and to allow for potential erosion. Flood proofing may be achieved by all or a combination of the following:
1. building on fill, provided such fill does not interfere with flood flows of the watercourse, and is adequately protected against floodwater erosion;
2. building raised by structural means such as foundation walls, columns, etc.;
3. a combination of fill and structural means.

Floodway - The channel of the watercourse and those portions of the flood plains that are reasonably required to discharge the flood flow of a Designated Flood. A minimum required floodway shall be equal to the width of the channel within the natural boundary plus a minimum setback of thirty metres from the natural boundary on each side of the channel or channels unless otherwise approved.

Freeboard – A vertical distance added to the Designated Flood Level. Used to establish the Flood Construction Level.

Habitable Area - Any room or space within a building or structure that is or can be used for human occupancy, commercial sales, or storage of goods, possessions or equipment (including furnaces) which would be subject to damage if flooded.

Heavy Industry - Includes such uses as manufacturing or processing of wood and paper products, metal, heavy electrical, non-metallic mineral products, petroleum and coal products, industrial chemicals and by-products, and allied products.

Inspector of Dikes - An official of the Ministry of Water, Land and Air Protection as defined under the *Dike Maintenance Act*, RSBC 1996, chapter 95.

Institutional Use - A use providing for public functions and includes federal, provincial, regional and municipal offices, schools, churches, colleges, hospitals, community centres, libraries, museums, jails, courts of law and similar facilities; and specifically excludes public storage and works yards, and public utility uses.

Light or Service Industry - Includes such uses as assembly, fabrication and light manufacturing, warehousing, wholesaling and food processing.

Manufactured Home - A structure manufactured as a unit, intended to be occupied in a place other than at its manufacture, and designed as a dwelling unit, and includes mobile homes, and specifically excludes Recreation Vehicles.

Minimum Ponding Elevation - A minimum construction level assigned to reduce possible flood damage due to ponding of local drainage during a severe local storm.

Natural Boundary - The visible high watermark of any lake, river, stream or other body of water where the presence and action of the water are so common and usual and so long continued in all ordinary years as to mark upon the soil of the bed of the lake, river, stream or other body of water a character distinct from that of the banks thereof, in respect to

vegetation, as well as in respect to the nature of the soil itself (*Land Act,* section 1). For coastal areas, the natural boundary shall include the natural limit of permanent terrestrial vegetation. In addition, the natural boundary includes the best estimate of the edge of dormant or old side channels and marsh areas.

Non-conforming - Any existing building located on flood prone land that does not meet flood proofing requirements set out in any pertinent bylaw, regulation or covenant.

Pad – A paved surface on which blocks, posts, runners or strip footings are placed for the purpose of supporting a manufactured home or unit.

Professional Engineer - A person who is registered or licensed under the provisions of the Engineers and Geoscientists Act, RSBC 1996, chapter 116.

Recreation Use - A use providing for indoor or outdoor recreation and includes parks, playgrounds, and sports facilities.

Recreation Vehicle - Any structure, trailer or vehicle used or designed to be used for living or sleeping purposes and which is designed or intended to be mobile on land, whether or not self-propelled.

Setback – A withdrawal of a building or landfill from the natural boundary or other reference line to maintain a floodway and to allow for potential land erosion.

Standard Dikes - Those dikes built to a minimum crest elevation equal to the Flood Construction Level and meeting standards of design and construction approved by the Ministry of Water, Land and Air Protection and maintained by an ongoing authority such as a local government body.

Training Works - Any wall, dike or protective structure used to prevent a stream from leaving its channel at a given location. This includes any debris flow training structures including basins, trash racks, or other works.

Tsunami - A sea wave generated by tectonic or volcanic activity.

Watercourse - Any natural or man-made depression with well defined banks and a bed 0.6 metres or more below the surrounding land serving to give direction to a current of water at least six (6) months of the year or having a drainage area of 2 square kilometres or more upstream of the point of consideration.

APPENDIX B - Standard Forms

Form 1	Official Community Plan Policies
Form 2	Standard Bylaw Format
Form 3	Section 219 Covenant including Priority Agreement and Affidavit for Witness Form for Approval within Organized Municipality
Form 4	Section 219 Covenant including Priority Agreement and Affidavit for Witness Form for Area where Approval Authority is Ministry of Transportation and Highways
Form 5	Subdivision Approval Format
Form 6	Bare Land Strata Approval
Form 7	Subdivision – Refusal to Consent
Form 8	Modification of Covenant (to be used where covenant conditions are changed)
Form 9	Lease – Disposition Referral Form
Form 10	Lot Line Adjustment

OFFICIAL COMMUNITY PLAN POLICIES

Version Date: _____

The goals of the provincial Flood Hazard Area Land Use Management Guidelines are:

i) to protect against the loss of life; and

ii) to minimize property damage, injury and trauma associated with flooding events.

These goals are reflected in the relevant Provincial statutes concerning land use and subdivision.

In preparing this plan the establishment of land use intensities and designations for flood prone lands should be cognizant of the flooding susceptibility and the degree of flood risk. Agriculture, parks and open-space recreation are land uses which are considered appropriate for flood prone lands as the threat to life and property is low. Other designated uses for new development should be based on the degree of flood risk with residential use being the least acceptable in unprotected flood prone areas. In particular, multi-family residential and manufactured home uses should be avoided. Where development is presently located in floodplains or current zoning permits new development, future construction in such areas should be floodproofed.

It is requested that the following policy statement be included in that section of the plan concerning hazardous lands:

"To protect against the loss of life and to minimize property damage associated with flooding events the Regional Board or Council encourages agricultural, park and open-space recreational uses of flood susceptible lands. Where floodable lands are required for development, the construction and siting of buildings and manufactured homes to be used for habitation, business or the storage of goods damageable by floodwaters shall be floodproofed to those standards specified by the Ministry of Water, Land and Air Protection."

Lands which are known to be floodable should be adequately described in the text of the plan and shown on a hazard schedule. As additional lands within this plan area, which would not be identified on this hazard schedule, may also subject to flooding and other geological hazards the following note should be displayed on this hazard schedule:

"Note: Boundary lines depicting flood prone lands are approximate only. Additional lands subject to flooding and erosion which may be present have not been identified on this map."

STANDARD FORMAT
FLOODPROOFING REQUIREMENTS IN BYLAWS PURSUANT TO SECTION 910 OF THE LOCAL GOVERNMENT ACT
AND DESIGNATION ORDERS

Version Date: _____

"Pursuant to Section 910(1) of the *Local Government Act*, areas of the **___local authority___** designated as floodplain are as follows:

(1) The floodplain of the **___watercourse___** in the vicinity of the **___local authority___** as shown on Drawing No. _____, Sheets ___ to ___.

(2) Designation of all other floodplain areas of the **___local authority___** are described by the following provisions (except where the Flood Construction Level has been determined in response to a site-specific situation) until such time as floodplain mapping is prepared."

The following are the suggested definitions and flood control provisions for inclusion:

"[Note: The purpose of these conditions is to reduce the risk of injury, loss of life, and property damage due to flooding and erosion However, the **___local authority___** does not represent to the owner or any other person that any building constructed or manufactured home or unit located in accordance with the following conditions will not be damaged by flooding or erosion.]

1. Definitions

For the purpose of this section the following definitions shall apply:

Alluvial Fan means the alluvial deposit of a stream where it issues from a steep mountain valley or gorge upon a plain or at the junction of a tributary stream with the main stream.

Designated Flood means a flood, which may occur in any given year, of such magnitude as to equal a flood having a 200-year recurrence interval, based on a frequency analysis of unregulated historic flood records or by regional analysis where there is inadequate streamflow data available. Where the flow of a large watercourse is controlled by a major dam, the designated flood shall be set on a site specific basis.

Designated Flood Level means the observed or calculated elevation for the Designated Flood and is used in the calculation of the Flood Construction Level.

Flood Construction Level means the Designated Flood Level plus the allowance for freeboard and is used to establish the elevation of the underside of a wooden floor system or top of a concrete slab for habitable buildings. In the case of a manufactured home, the ground level or top of a concrete or asphalt pad, on which it is located shall be no lower than the above-described elevation. It also establishes the minimum crest level of a Standard Dike. Where the Designated Flood Level cannot be determined or where there are overriding factors, an assessed height above the natural boundary of the water body or above the natural ground elevation may be used.

Floodproofing means the alteration of land or structures either physically or in use to reduce or eliminate flood damage and includes the use of elevation and /or building setbacks from water bodies to maintain a floodway and to allow for potential erosion.

Freeboard means a vertical distance added to the Designated Flood Level and is used to establish the Flood Construction Level.

Habitable Area means any room or space within a building or structure which is or can be used for human occupancy, commercial sales, or storage of goods, possessions or equipment (including furnaces) which would be subject to damage if flooded.

Heavy Industry includes such uses as manufacturing or processing of wood and paper products, metal, heavy electrical, non-metallic mineral products, petroleum and coal products, industrial chemicals and by-products, and allied products.

Light or Service Industry includes such uses as assembly, fabricating, light manufacturing, warehousing, wholesaling and food processing.

Manufactured Home means a structure manufactured as a unit, intended to be occupied in a place other than at its manufacturer, and designed as a dwelling unit, and includes mobile homes, and specifically excludes recreation vehicles.

... 3

Natural Boundary means the visible high watermark of any lake, river, stream or other body of water where the presence and action of the water are so common and usual and so long continued in all ordinary years as to mark upon the soil of the bed of the lake, river, stream or other body of water a character distinct from that of the banks thereof, in respect to vegetation, as well as in respect to the nature of the soil itself (Land Act, Section 1). In addition, the natural boundary includes the best estimate of the edge of dormant or old side channels and marsh areas.

Pad means a paved surface on which blocks, posts, runners or strip footings are placed for the purpose of supporting a manufactured home or unit.

Setback means a withdrawal of a building or landfill from the natural boundary or other reference line to maintain a floodway and to allow for potential land erosion.

Standard Dikes means those built to a minimum crest elevation equal to the Flood Construction Level and meeting standards of design and construction approved by the Ministry of Water, Land and Air Protection and maintained by an ongoing authority such as a local government body.

Watercourse means any natural or man made depression with well defined banks and a bed 0.6 metres or more below the surrounding land serving to give direction to a current of water at least six (6) months of the year or having a drainage area of 2 square kilometres or more upstream of the point of consideration.

2. Setback Requirements

Pursuant to section 910 (4) of the *Local Government Act*, no landfill or structural support required to support a floor system or pad, shall be constructed, reconstructed, moved, extended or located:

within _____ metres of the natural boundary of the sea, a lake, a swamp, pond or any structure for flood protection or seepage control or of any dike right-of-way;

within _____ metres of the natural boundary of _____;

within _____ metres of the natural boundary of any other watercourse.

3. Elevation Requirements

a. Pursuant to section 910 (4) of the *Local Government Act*, no building, manufactured home or unit, modular home or structure or any part thereof shall be constructed, reconstructed, moved, extended or located with the underside of a wooden floor system or top of a concrete slab of any area used for habitation, business, or storage of goods damageable by floodwaters, or in the case of a manufactured home or unit the ground level or top of the concrete or asphalt pad on which it is located:

lower than elevation _____ metres Geodetic Survey of Canada datum for locations adjacent to _____ Lake;

lower than the Flood Construction Level for the _____ where it has been determined, or where it has not been determined or a site-specific Flood Construction Level has not been determined;

nor lower than _____ metres above the natural boundary of _____;

nor lower than _____ metres above the natural boundary of the sea, a lake, swamp or pond;

nor lower than _____ metres above the natural boundary of any other watercourse.

b. The required elevation may be achieved by structural elevation of the said habitable, business, or storage area or by adequately compacted landfill on which any building is to be constructed or manufactured home or unit located, or by a combination of both structural elevation and landfill. No area below the required elevation shall be used for the installation of furnaces or other fixed equipment susceptible to damage by floodwater.

c. Where landfill is used to achieve the required elevation stated in Clause 3.a. above, no portion of the landfill slope shall be closer than the distances in Clause 2 from the natural boundary, or the inboard toe of any structure for flood protection or seepage control, or the inboard side of any dike right-of-way, and the face of the landfill slope shall be adequately protected against erosion from flood flows, wave action, ice or other debris.

d. Foundations of construction in alluvial fan areas shall be designed by a Professional Engineer to ensure that structures are anchored to minimize the impact of flood, sediment and erosion damage; footings are extended below scour depth, or fill materials are armoured where elevation is achieved by fill, to protect against scour, erosion and flood flows.

4. Other Requirements

Clause 3 shall not apply to:

a. a renovation of an existing building or structure that does not involve an addition thereto; or an addition to a building or structure that would increase the size of the building or structure by less than 25 percent of the floor area existing at the date of adoption of Bylaw No. _____ (first bylaw containing floodproofing conditions);

b. that portion of a building or structure to be used as a carport or garage;

c. farm buildings other than dwelling units and closed-sided livestock housing. Farm dwelling units on parcel sizes 8.0 hectares or greater and within the Agricultural Land Reserve are exempted from the requirements of Clause 3.a. but if in a floodable area shall be elevated one (1) metre above the natural ground elevation. Closed-sided livestock housing behind Standard Dykes as approved by the Inspector of Dikes is exempted from the requirement to floodproof but if not behind Standard Dykes shall be elevated one (1) metre above the natural ground elevation;

d. light or heavy industrial development which is required to floodproof to the Designated Flood Level;

e. heavy industry behind Standard Dykes;

f. on-loading and off-loading facilities associated with water-oriented industry and portable sawmills. Main electrical switchgear shall be placed above the Flood Construction Level.

LAND TITLE ACT
FORM C
(Section 219.81)

Province of
British Columbia
GENERAL INSTRUMENT-PART 1 (This area for Land Title Office Use) Page 1 of _____ p

1. APPLICATION: (Name, address, phone number and signature of applicant, applicant's solicitor or agent)

_____

(Signature of Authorized Ager

2. PARCEL IDENTIFIER(S) AND LEGAL DESCRIPTION(S) OF LAND:*
(PID) (LEGAL DESCRIPTION)

3. NATURE OF INTEREST:*

Description	Document Reference (Page and paragraph)	Person Entitled to Interest

4. TERMS: Part 2 of this instrument consists of (select one only)

(a)	Filed Standard Charge Terms	☐	D.F. No.
(b)	Express Charge Terms	☐	Annexed as Part 2
(c)	Release	☐	There is no Part 2 of this instrument

A selection of (a) includes any additional or modified terms referred to in Item 7 or in a schedule annexed to this instrument. If (c) is selected, the charge described in Item 3 is released or discharged as a charge on the land described in Item 2.

5. TRANSFEROR(S):*

Name of Transferor, Address

6. TRANSFEREE(S): (Including postal address(es) and postal code(s)) *

Name of Municipality, Address

7. ADDITIONAL OR MODIFIED TERMS: *

8. EXECUTION(S): ** This instrument creates, assigns, modifies, enlarges, discharges or governs the priority of the interest(s) described in Item 3 and the Transferor(s) and every other signatory agree to be bound by this instrument, and acknowledge(s) receipt of a true copy of the filed standard charge terms, if any.

Officer Signature(s)	Execution Date			Party(ies) Signature(s)
	Y	M	D	
				Name of Transferor
				Name of Municipality

OFFICER CERTIFICATION:
Your signature constitutes a representation that you are a solicitor, notary public or other person authorized by the *Evidence Act*, R.S.B.C. 1979, c. 116, to take affidavits for use in British Columbia and certifies the matters set out in Part 5 of the *Land Title Act* as they pertain to the execution of this instrument.

* If space insufficient, enter "SEE SCHEDULE" and attach schedule in Form E.
** If space insufficient, continue executions on additional page(s) in Form D.

THIS AGREEMENT made this _____ day of _____, 20___

BETWEEN: _____

_____

(hereinafter called the "Grantor")

OF THE FIRST PART

AND:

(name of Municipality), _____
having an office at (address) _____.

British Columbia _____

(hereinafter called the "Grantee")

OF THE SECOND PART

WHEREAS the Grantor is the registered owner in fee simple of the following lands in the Province of British Columbia, more particularly known and described as:

(legal description) _____

(hereinafter called the "Lands");

AND WHEREAS the Grantor proposes to subdivide the Lands, according to a plan of subdivision completed and certified correct on the _____ day of _____, 20___, by _____ , British Columbia Land Surveyor, a copy of which is attached hereto as Schedule 'A', into the following lots:

_____

(hereinafter called the "Lots");

AND WHEREAS a covenant under section 219 of the *Land Title Act* is required as a condition of the consent to approval of the subdivision of the Lands by the Approving Officer under section 86 of the *Land Title Act*;

AND WHEREAS section 219 of the *Land Title Act* provides that there may be registered as a charge against the title to any land a covenant in favour of the Grantee and a municipality that land is to be used in a particular manner or that land is not to be subdivided except in accordance with the covenant;

NOW THEREFORE THIS AGREEMENT WITNESSETH that in consideration of the sum of ONE ($1.00) DOLLAR of lawful money of Canada and other good valuable consideration paid by

the Grantee to the Grantor, the receipt of which is hereby acknowledged, the Grantor does hereby covenant and agree with the Grantee under section 219 of the *Land Title Act* of the Province of British Columbia as follows

1. The Grantor is aware of and, on behalf of himself or herself and his or her heirs, executors, administrators, successors and assigns, hereby acknowledges that there is a potential flood danger to the Lots.

2. The Grantor, on behalf of himself or herself and his or her heirs, executors, administrators, successors and assigns, hereby covenants and agrees with the Grantee, as a covenant in favour of the Grantee pursuant to section 219 of the *Land Title Act*, it being the intention and agreement of the Grantor that the provisions hereof be annexed to and run with and be a charge upon the Lots, that from and after the date hereof:

    a. No building, manufactured home or unit, modular home or structure shall be constructed, reconstructed, moved, extended or located within _____ metres of the natural boundary of (name of watercourse).

    b. No area used for habitation, business or storage of goods damageable by floodwaters and no furnace or other fixed equipment damageable by floodwaters shall be located within any building, modular home or structure at an elevation such that the underside of the floor system is less than _____ metre(s) above the natural boundary of _____ or elevation _____ metres Geodetic Survey of Canada datum or _____ metre(s) above the natural ground elevation taken at the perimeter of the building.

    In the case of a manufactured home or unit, the ground level or top of concrete or asphalt pad on which it is located shall be no lower than the above described elevation.

3. Where landfill is used to raise the natural ground elevation, the toe of the landfill slope shall be no closer to the natural boundary than the setback requirement given in paragraph (2) above. The face of the landfill slope shall be adequately protected against erosion from flood flows (wave action, ice, or other debris). The required elevation may be achieved by structural elevation of the said habitable, business, or storage area or by adequately compacted landfill on which any building, modular home or structure is to be constructed or manufactured home or unit located, or by a combination of both structural elevation and landfill, provided, that no area below the required

elevation shall be used for the installation of furnaces or other fixed equipment damageable by floodwaters.

4. The Grantor, on behalf of himself or herself and his or her heirs, executors, administrators, successors and assigns, acknowledges that the Grantee does not represent to the Grantor, nor to any other person that any building, modular home, manufactured home or unit, improvement, chattel or other structure, including the contents of any of them, built, constructed or placed on the Lots will not be damaged by flooding or erosion and the Grantor, on behalf of himself or herself and his or her heirs, executors, administrators, successors and assigns, with full knowledge of the potential flood or erosion danger and in consideration of the approvals given by the Grantee hereby:

   a. agrees to indemnify and to save harmless the Grantee and the Grantee's employees, servants or agents from all loss, damage, costs, actions, suits, debts, accounts, claims and demands which the Grantee or any of the Grantee's employees, servants or agents, may suffer or incur or be put to arising out of or in connection with any breach of any covenant or agreement on the part of the Grantor or his or her heirs, executors, administrators, successors and assigns contained in this Agreement or arising out of or in connection with any personal injury, death or loss or damage to the Lots, or to any building, modular home, manufactured home or unit, improvement, chattel or other structure, including the contents of any of them, built, constructed or placed on the Lots (including existing non-conforming buildings)*, caused by flooding, erosion or some such similar cause; and

* To be inserted where Guideline 4.6 applies

   b. does remise, release and forever discharge the Grantee and the Grantee's employees, servants or agents from all manner of actions, causes of action, suits, debts, accounts, covenants, contracts, claims and demands which the Grantor or any of his or her heirs, executors, administrators, successors and assigns may have against the Grantee and the Grantee's employees, servants or agents for and by reason of any personal injury, death or loss or damage to the Lots, or to any building, modular home, manufactured home or unit, improvement, chattel or other structure, including the contents of any of them, built, constructed or placed on the Lots, caused by flooding, erosion or some such similar cause.

5. Subject to the provisions of section 219 of the *Land Title Act*, the Grantor's covenants contained in this Agreement shall burden and run with the Lots and shall enure to the benefit and be binding upon the Grantor, his or her heirs, executors, administrators, successors and assigns and the Grantee and its assigns.

6. Nothing in this Agreement shall prejudice or affect the rights, powers and remedies of the Grantee in relation to the Grantor, including his or her heirs, executors, administrators, successors and assigns, or the Lots under any law, bylaw, order or regulation or in equity, all of which rights, powers and remedies may be fully and effectively exercised by the First Grantee as if this Agreement had not been made by the parties.

7. The Grantor will do or cause to be done at his or her expense all acts reasonably necessary for the First Grantee to gain priority for this Agreement over all liens, charges and encumbrances which are or may be registered against the Lots save and except those in favour of the First Grantee and those specifically approved in writing by the First Grantee.

8. The parties agree that this Agreement shall not be modified or discharged except in accordance with the provisions of section 219(9) of the *Land Title Act*.

9. The Grantor shall do or cause to be done all things and execute or cause to be executed all documents and give such further and other assurance which may be reasonably necessary to give proper effect to the intent of this Agreement.

10. a. The Grantor or any of his or her heirs, executors, administrators and assigns, as the case may be, shall give written notice of this Agreement to any person to whom he or she proposes to dispose of one of the Lots, which notice shall be received by that person prior to such disposition.

    b. For the purposes of this paragraph the word "dispose" shall have the meaning given to it under section 29 of the *Interpretation Act*, R.S.B.C. 1996, c.238

11. Wherever the singular or masculine or neuter is used herein, the same shall be construed as including the plural, feminine, body corporate or politic unless the context requires otherwise.

12. If any section or any part of this Agreement is found to be illegal or unenforceable, then such sections or parts shall be considered to be separate and severable from this Agreement and the remaining sections or parts of this Agreement, as the case may be, shall be unaffected thereby and

shall remain and be enforceable to the fullest extent permitted by law as though the illegal or unenforceable parts or sections had never been included in this Agreement.

13. This agreement shall be interpreted according to the laws of the Province of British Columbia.

14. Where there is a reference to an enactment of the Province of British Columbia in this agreement, that reference shall include a reference to any subsequent enactment of the Province of British Columbia of like effect, and unless the context otherwise requires, all statutes referred to herein are enactments of the Province of British Columbia.

IN WITNESS WHEREOF the parties hereto have executed this Agreement on the day and year first above written.

Signed by)
in the presence of:)
)
_____)
Witness) _____
) Grantor
)
_____)
Address)
)
_____)
Title or Occupation)

The Corporate Seal of _____)
)
_____ (Name of Municipality _____)
)
was hereunto affixed in the presence of:) (c/s)
)
_____)
)
_____)

This is the instrument creating the condition of Covenant pursuant to section 219 of the *Land Title Act* by the Grantor referred to herein and shown on the Print and Plan annexed hereto as Schedule 'A' and initialled by me.

_____
Approving officer

(A Consent and Priority Agreement may be required to gain priority for the Section 219 Covenant over financial charges. See below.)

CONSENT AND PRIORITY AGREEMENT

(liens, charges and encumbrances)

WHEREAS _____ (the "Chargeholder") is the holder of a _____ registered in the _____ Land Title Office under No. _____ (the "Charge") encumbering the lands described in the attached Section 219 Covenant (the "Covenant").

Therefore this Consent and Priority Agreement witnesses that the Chargeholder hereby:

1. approves of, joins in and consents to the registration of the Covenant;
2. covenants and agrees that the Covenant is binding upon and takes priority over the Charge; and
3. postpones the Charge and all of its right, title and interest thereunder to the Covenant in the same manner and to the same effect as if the Covenant had been dated, executed and registered prior to the Charge.

IN WITNESS WHEREOF the Chargeholder has executed this Consent and Priority Agreement on the attached Form C.

FORM C
(Section 219.81)

Province of
British Columbia
GENERAL INSTRUMENT-PART 1 (This area for Land Title Office Use) Page 1 of _____ p

1. APPLICATION: (Name, address, phone number and signature of applicant, applicant's solicitor or agent)

_____

(Signature of Authorized Ager

2. PARCEL IDENTIFIER(S) AND LEGAL DESCRIPTION(S) OF LAND:*
(PID) (LEGAL DESCRIPTION)

3. NATURE OF INTEREST:*

Description	Document Reference (Page and paragraph)	Person Entitled to Interest

4. TERMS: Part 2 of this instrument consists of (select one only)

(a)	Filed Standard Charge Terms	☐	D.F. No.
(b)	Express Charge Terms	☐	Annexed as Part 2
(c)	Release	☐	There is no Part 2 of this instrument

A selection of (a) includes any additional or modified terms referred to in Item 7 or in a schedule annexed to this instrument. If (c) is selected, the charge described in Item 3 is released or discharged as a charge on the land described in Item 2.

5. TRANSFEROR(S):*

Name of Transferor, Address

TRANSFEREE(S): (Including postal address(es) and postal code(s)) *
- Her Majesty the Queen in right of the Province of British Columbia as represented by the Minister of Transportation, Parliament Buildings, Victoria, British Columbia V8V 1X5, and

- Name of Municipality, Address (if applicable)

7. ADDITIONAL OR MODIFIED TERMS: *

8. EXECUTION(S): ** This instrument creates, assigns, modifies, enlarges, discharges or governs the priority of the interest(s) described in Item 3 and the Transferor(s) and every other signatory agree to be bound by this instrument, and acknowledge(s) receipt of a true copy of the filed standard charge terms, if any.

Officer Signature(s)	Execution Date			Party(ies) Signature(s)
	Y	M	D	
				Name of Grantee under Covenant HER MAJESTY THE QUEEN IN RIGHT OF THE PROVINCE OF BRITISH COLUMBIA, by its authorized signatory Name of Municipality (if applicable)

OFFICER CERTIFICATION:
Your signature constitutes a representation that you are a solicitor, notary public or other person authorized by the *Evidence Act*, R.S.B.C. 1979, c. 116, to take affidavits for use in British Columbia and certifies the matters set out in Part 5 of the *Land Title Act* as they pertain to the execution of this instrument.

* If space insufficient, enter "SEE SCHEDULE" and attach schedule in Form E.
** If space insufficient, continue executions on additional page(s) in Form D.

THIS AGREEMENT made this _____ day of _____, 20___

BETWEEN: _____

_____

(hereinafter called the "Grantor")

OF THE FIRST PART

AND: Her Majesty the Queen in Right of the Province of British Columbia as represented by the Minister of Transportation, Parliament Buildings, Victoria, British Columbia , V8V 1X5

OF THE SECOND PART

(hereinafter called the "Second Grantee")

AND:

(name of Regional District), _____
(where Regional District party to Clause 4)

having an office at (address)_____

British Columbia (OR OTHER)_____

(hereinafter called the "Second Grantee")

OF THE THIRD PART

WHEREAS the Grantor is the registered owner in fee simple of the following lands in the Province of British Columbia, more particularly known and described as:

(legal description) _____

(hereinafter called the "Lands");

AND WHEREAS the Grantor proposes to subdivide the Lands, according to a plan of subdivision completed and certified correct on the _____ day of _____ , 20___, by _____ , British Columbia Land Surveyor, a copy of which is attached hereto as Schedule 'A', into the following lots:

_____

(hereinafter called the "Lots");

AND WHEREAS a covenant under section 219 of the *Land Title Act* is required as a condition of the consent to approval of the subdivision of the Lands under section 86 of the *Land Title Act*;

AND WHEREAS section 219 of the *Land Title Act* provides that there may be registered as a charge against the title to any land a covenant in favour of the First Grantee and the Second Grantee

(hereinafter called the "Grantees") that land is to be used in a particular manner or that land is not to be subdivided except in accordance with the covenant;

NOW THEREFORE THIS AGREEMENT WITNESSETH that in consideration of the sum of ONE DOLLAR ($1.00) of lawful money of Canada and other good valuable consideration paid by the Grantees to the Grantor, the receipt of which is hereby acknowledged, the Grantor does hereby covenant and agree with the Grantees under section 219 of the *Land Title Act* of the Province of British Columbia as follows:

1. The Grantor is aware of and, on behalf of himself or herself and his or her heirs, executors, administrators, successors and assigns, hereby acknowledges that there is a potential flood danger to the Lots.

2. The Grantor, on behalf of himself or herself and his or her heirs, executors, administrators, successors and assigns, hereby covenants and agrees with the Grantees, as a covenant in favour of the Grantees pursuant to section 219 of the *Land Title Act*, it being the intention and agreement of the Grantor that the provisions hereof be annexed to and run with and be a charge upon the Lots, that from and after the date hereof:

   a. No building, manufactured home or unit, modular home or structure shall be constructed, reconstructed, moved, extended or located within _____ metres of the natural boundary of (name of watercourse).

   b. No area used for habitation, business or storage of goods damageable by floodwaters and no furnace or other fixed equipment damageable by floodwaters shall be located within any building, modular home or structure at an elevation such that the underside of the floor system is less than _____ metre(s) above the natural boundary of _____ or elevation _____ metres Geodetic Survey of Canada datum or _____ metre(s) above the natural ground elevation taken at the perimeter of the building.

      In the case of a manufactured home or unit, the ground level or top of concrete or asphalt pad on which it is located shall be no lower than the above described elevation.

3. Where landfill is used to raise the natural ground elevation, the toe of the landfill slope shall be no closer to the natural boundary than the setback requirement given in paragraph (2) above. The face of the landfill slope shall be adequately protected against erosion from flood flows (wave action, ice, or other debris). The required elevation may be achieved by structural elevation of the said

habitable, business, or storage area or by adequately compacted landfill on which any building, modular home or structure is to be constructed or manufactured home or unit located, or by a combination of both structural elevation and landfill, provided, that no area below the required elevation shall be used for the installation of furnaces or other fixed equipment damageable by floodwaters.

4. The Grantor, on behalf of himself or herself and his or her heirs, executors, administrators, successors and assigns, acknowledges that the Grantee does not represent to the Grantor, nor to any other person that any building, modular home, manufactured home or unit, improvement, chattel or other structure, including the contents of any of them, built, constructed or placed on the Lots will not be damaged by flooding or erosion and the Grantor, on behalf of himself or herself and his or her heirs, executors, administrators, successors and assigns, with full knowledge of the potential flood or erosion danger and in consideration of the approvals given by the Grantees hereby:

   a. agrees to indemnify and to save harmless the Grantees and the Grantees' employees, servants or agents from all loss, damage, costs, actions, suits, debts, accounts, claims and demands which the Grantees or any of the Grantees' employees, servants or agents, may suffer or incur or be put to arising out of or in connection with any breach of any covenant or agreement on the part of the Grantor or his or her heirs, executors, administrators, successors and assigns contained in this Agreement or arising out of or in connection with any personal injury, death or loss or damage to the Lots, or to any building, modular home, manufactured home or unit, improvement, chattel or other structure, including the contents of any of them, built, constructed or placed on the Lots (including existing non-conforming buildings)*, caused by flooding, erosion or some such similar cause; and

* To be inserted where Guideline 4.6 applies

   b. does remise, release and forever discharge the Grantees and the Grantees' employees, servants or agents from all manner of actions, causes of action, suits, debts, accounts, covenants, contracts, claims and demands which the Grantor or any of his or her heirs, executors, administrators, successors and assigns may have against the Grantees and the Grantees' employees, servants or agents for and by reason of any personal injury, death or loss or damage to the Lots, or to any building, modular home, manufactured home or unit, improvement, chattel or other structure, including the contents of any of them, built,

constructed or placed on the Lots, caused by flooding, erosion or some such similar cause.

5. Subject to the provisions of section 219 of the *Land Title Act*, the Grantor's covenants contained in this Agreement shall burden and run with the Lots and shall enure to the benefit and be binding upon the Grantor, his or her heirs, executors, administrators, successors and assigns and the Grantees and their assigns.

6. Nothing in this Agreement shall prejudice or affect the rights, powers and remedies of the Grantees in relation to the Grantor, including his or her heirs, executors, administrators, successors and assigns, or the Lots under any law, bylaw, order or regulation or in equity, all of which rights, powers and remedies may be fully and effectively exercised by the Grantees as if this Agreement had not been made by the parties.

7. The Grantor will do or cause to be done at his or her expense all acts reasonably necessary for the Grantees to gain priority for this Agreement over all liens, charges and encumbrances which are or may be registered against the Lots save and except those in favour of the Grantees and those specifically approved in writing by the Grantees.

8. The parties agree that this Agreement shall not be modified or discharged except in accordance with the provisions of section 219(9) of the *Land Title Act*.

9. The Grantor shall do or cause to be done all things and execute or cause to be executed all documents and give such further and other assurance which may be reasonably necessary to give proper effect to the intent of this Agreement.

10. a. The Grantor or any of his or her heirs, executors, administrators and assigns, as the case may be, shall give written notice of this Agreement to any person to whom he or she proposes to dispose of one of the Lots, which notice shall be received by that person prior to such disposition.

    b. For the purposes of this paragraph the word "dispose" shall have the meaning given to it under section 29 of the *Interpretation Act*, R.S.B.C. 1996, c.238

11. Wherever the singular or masculine or neuter is used herein, the same shall be construed as including the plural, feminine, body corporate or politic unless the context requires otherwise.

12. If any section or any part of this Agreement is found to be illegal or unenforceable, then such sections or parts shall be considered to be separate and severable from this Agreement and the remaining sections or parts of this Agreement, as the case may be, shall be unaffected thereby and shall remain and be enforceable to the fullest extent permitted by law as though the illegal or unenforceable parts or sections had never been included in this Agreement.

13. This agreement shall be interpreted according to the laws of the Province of British Columbia.

14. Where there is a reference to an enactment of the Province of British Columbia in this agreement, that reference shall include a reference to any subsequent enactment of the Province of British Columbia of like effect, and unless the context otherwise requires, all statutes referred to herein are enactments of the Province of British Columbia.

IN WITNESS WHEREOF the parties hereto have executed this Agreement on the day and year first above written.

Signed by)
in the presence of:)
)
_____)
Witness)
)
_____)
Address)
)
_____)
Title or Occupation)

_____
Grantor

Signed on behalf of Her Majesty the Queen)
in Right of the Province of British Columbia)
as represented by the Minister of)
Transportation or his or her duly authorized)
designate in the presence of:)
)
_____)
Witness)
_____)
Witness)
_____)
Title or Occupation)

_____
Minister of Transportation or his or her duly authorized designate

The Corporate Seal of _____)
)
_____)
)
was hereunto affixed in the presence of:)
)
_____)
)
_____)

(c/s)

(Regional District)

This is the instrument creating the condition of Covenant pursuant to section 219 of the *Land Title Act* by the Grantor referred to herein and shown on the Print and Plan annexed hereto as Schedule 'A' and initialled by me.

_____
Approving Officer, Ministry of Transportation

(A Consent and Priority Agreement may be required to gain priority for the Section 219 Covenant over financial charges. See below.)

CONSENT AND PRIORITY AGREEMENT

(liens, charges and encumbrances)

WHEREAS _____ (the "Chargeholder") is the holder of a _____ registered in the _____ Land Title Office under No. _____ (the "Charge") encumbering the lands described in the attached Section 219 Covenant (the "Covenant").

Therefore this Consent and Priority Agreement witnesses that the Chargeholder hereby:

1. approves of, joins in and consents to the registration of the Covenant;
2. covenants and agrees that the Covenant is binding upon and takes priority over the Charge; and
3. postpones the Charge and all of its right, title and interest thereunder to the Covenant in the same manner and to the same effect as if the Covenant had been dated, executed and registered prior to the Charge.

IN WITNESS WHEREOF the Chargeholder has executed this Consent and Priority Agreement on the attached Form C.

SUBDIVISION APPROVAL FORMAT

Version Date: _____

File:
Date:

Applicant
_____
_____
_____
_____
_____

Dear Sir/Madam:

Re: Proposed Subdivision of _____
(name of watercourse)

This letter is in reply to your correspondence of _____. As the Approving Officer, consent is hereby given, pursuant to Section 86 of the Land Title Act, to your application for subdivision approval of the above-mentioned plan of subdivision, subject to the applicant entering into a covenant registrable under Section 219, which shall run with the land and shall put into effect the following conditions for the proposed lot to be created and the remainder:

"1. Hereafter, no building, manufactured home or unit, modular home or structure, shall be constructed, reconstructed, moved, extended or located within _____ metres of the natural boundary of the (name of watercourse).

2. Hereafter, no area used for habitation, business, or storage of goods damageable by floodwaters shall be located within any building, modular home of structure at an elevation such that the underside of the floor system thereof is less than _____ metres above the natural boundary of (name of watercourse).

In the case of a manufactured home or unit, the ground level or top of concrete or asphalt pad on which it is located shall be no lower than the above described elevation.

3. The required elevation may be achieved by structural elevation of the said habitable, business, or storage area or by adequately compacted landfill on which any building is to be constructed or manufactured home or unit located, or by a combination of both structural elevation and landfill. No area below the required elevation shall be used for the installation of furnaces or other fixed equipment susceptible to damage by floodwater. Where landfill is used to raise the natural ground elevation, the toe of the landfill slope shall be no closer to the natural boundary than the setback requirement given in condition (1) above. The face of the landfill slope shall be adequately protected against erosion from flood flows (wave action, ice or other debris).

... 2

4. The owner acknowledges that neither the provincial government nor the local authority have represented to the owner or any other person that any building constructed or manufactured home located in accordance with paragraphs (1) and (2) herein will not be damaged by flooding or erosion, and the owner covenants and agrees not to claim damages from the provincial government and (name of municipality) and not to hold the provincial government and (name of municipality) responsible for damages caused by flooding or erosion to the land or to any building, improvement, or other structure built, constructed or placed upon the said lands and to any contents thereof."

These covenant conditions are to be registered with priority over any financial charges registered against the property.

The following declaration is to be endorsed on the subdivision plan:

> The registered owners designated hereon hereby acknowledge that the land affected by this plan may be subject to flooding and declare that they have entered into a covenant in favour of the provincial government and the local authority [as applicable], under Section 219 of the Land Title Act.

_____
(covenantor)

dated at _____, _____, 20__

The covenant must be tendered with the application to deposit the subdivision plan. The covenant must have the following statement typed or stamped on it and signed by the Approving Officer:

> This is the instrument creating the condition or covenant entered into under Section 219 of the Land Title Act by the registered owner(s) referred to herein and shown on the print of plan annexed hereto and initialled by me.

_____
Approving Officer
(cite Authority)

ALLUVIAL FAN means the alluvial deposit of a stream where it issues from a steep mountain valley or gorge upon a plain or at the junction of a tributary stream with the main stream.

APPROVING OFFICER means the appropriate person appointed under the *Land Title Act*.

COMMERCIAL USE means a use providing for the sale or rental of goods or services, for personal services, or for the servicing and repair of goods; and includes retail sales, wholesaling in conjunction with retail sales, commercial and government offices, personal services. commercial schools, household services and household repairs.

DEBRIS FLOW means the rapid downslope movement down steep pre-existing drainage channels of water-saturated soil and debris by free flow processes.

DESIGNATED FLOOD means a flood which may occur in any given year, of such magnitude as to equal a flood having a 200-year recurrence interval, based on a frequency analysis of unregulated historic flood records or by regional analysis where there is inadequate streamflow data available. Where the flow of a large watercourse is controlled by a major dam, the designated flood small be set on a site-specific basis.

DESIGNATED FLOOD LEVEL means the observed or calculated elevation for the Designated Flood and is used in the calculation of the flood construction level.

DESIGNATED OFFICIAL means any official of British Columbia to whom signing authority has been given.

DISPOSITION means disposition of Crown land by certificate of purchase, grant, lease, licence of occupation, right-of-way, or easement under the *Land Act*.

FLOOD CONSTRUCTION LEVEL means the Designated Flood Level plus the allowance for freeboard and is used to establish the elevation of the underside of a wooden floor system or top of concrete slab for habitable buildings. In the case of a manufactured home, the ground level or top of concrete or asphalt pad on which it is located shall be no lower than the above described elevation. It also establishes the minimum crest level of a Standard Dike. Where the Designated Flood Level cannot be determined or where there are overriding factors, an assessed height above the natural boundary of the waterway or above the natural ground elevation may be used.

FLOODPLAIN means a lowland area, whether diked, floodproofed, or not, which, by reasons of land elevation, is susceptible to flooding from an adjoining watercourse, ocean, lake or other body of water and for administration purposes is taken to be that area submerged by the designated flood plus freeboard.

FLOODPROOFING means the alteration of land or structures either physically or in use to reduce or eliminate flood damage and includes the use of building setbacks from water bodies to maintain a floodway and to allow for potential erosion. Floodproofing may be achieved by all or a combination of the following:

1. Building on fill, provided such fill does not interfere with flood flows of the watercourse and is adequately protected against floodwater erosion;
2. Building raised by structural means such as foundation walls, columns, etc.;
3. A combination of fill and structural means.

FLOODWAY means the channel of the watercourse and those portions of the floodplains which are reasonably required to discharge the flood flow of a designated flood. A minimum required floodway shall be equal to the width of the channel within the natural boundary plus a minimum setback of thirty metres from the natural boundary on each side of the channel or channels unless otherwise approved.

FREEBOARD means a vertical distance added to the Designated Flood Level and is used to establish the Flood Construction Level.

HABITABLE AREA means any room or space within a building or structure which is or can be used for human occupancy, commercial sales, or storage of goods, possessions or equipment (including furnaces) which would be subject to damage if flooded.

HEAVY INDUSTRY includes such uses as manufacturing or processing of wood and paper products, metal, heavy electrical, non-metallic mineral products, petroleum and coal products, industrial chemicals and by-products, and allied products.

INSPECTOR OF DIKES means an official of the Ministry of Water, Land and Air Protection as defined under *The Dike Maintenance Act*, RS Chapter 99 of the Province of British Columbia.

INSTITUTIONAL USE means a use providing for public functions and includes federal, provincial, regional and municipal offices, schools, churches, colleges, hospitals, community centres, libraries, museums, jails, courts of law and similar facilities; and specifically excludes public storage and works yards, and public utility uses.

LIGHT OR SERVICE INDUSTRY includes such uses as assembly, fabrication and light manufacturing, warehousing, wholesaling and food processing.

MANUFACTURED HOME means a structure manufactured as a unit, intended to be occupied in a place other than at its manufacturer, and designed as a dwelling unit, and includes mobile homes, and specifically excludes recreation vehicles.

MINIMUM PONDING ELEVATION means a minimum construction level assigned to reduce possible flood damage due to bonding of local drainage during a severe local storm.

NATURAL BOUNDARY means the visible high watermark of any lake, river, stream or other body of water where the presence and action of the water are so common and usual and so long continued in all ordinary years as to mark upon the soil of the bed of the lake, river, stream or other body of water a character distinct from that of the banks thereof, in respect to vegetation, as well as in respect to the nature of the soil itself (*Land Act*, Section 1). In addition, the natural boundary includes the best estimate of the edge of dormant or old side channels and marsh areas.

NON-CONFORMING means any existing building located on floodprone land which does not meet floodproofing requirements set out in any pertinent bylaw, regulation or covenant.

PAD means a paved surface on which blocks, posts, runners or strip footings are placed for the purpose of supporting a manufactured home or unit.

PROFESSIONAL ENGINEER means a person who is registered or licensed under the provisions of the *Engineers and Geoscientists Act*, 1996, RS Chapter 116 of the Province of British Columbia.

RECREATION USE means a use providing for indoor or outdoor recreation and includes parks, playgrounds, and sports facilities.

RECREATION VEHICLE means any structure, trailer or vehicle used or designed to be used for living or sleeping purposes and which is designed or intended to be manufactured on land, whether or not self-propelled.

SETBACK means a withdrawal of a building or landfill from the natural boundary or other reference line to maintain a floodway and to allow for potential land erosion.

STANDARD DIKES means those built to a minimum crest elevation equal to the flood construction level and meeting standards of design and construction approved by the Ministry of Environment and Parks and maintained by an ongoing authority such as a local government body.

TRAINING WALLS means any wall, dike or protective structure used to prevent a stream from leaving its channel at a given location.

TSUNAMI means a sea wave generated by tectonic or volcanic activity.

WATERCOURSE means any natural or man made depression with well-defined banks and a bed 0.6 metres or more below the surrounding land serving to give direction to a current of water at least six (6) months of the year or having a drainage area of 2 square kilometres or more upstream of the point of consideration.,.

SUBDIVISION APPROVAL FORMAT
BARE LAND STRATA REGULATIONS

Version Date: _____

File:
Date:

Applicant
_____
_____
_____
_____
_____

Dear Sir/Madam:

Re: Application for Approval of Proposed Bare Land Strata Plan of
_____
(name of watercourse)

This letter is in reply to your correspondence of _____. As the Approving Officer, consent is hereby given, pursuant to Section 3 of the Bare Land Strata Regulations, as amended, for the approval of the above-mentioned Bare Land Strata Plan, subject to the applicant entering into a covenant registrable under Section 219, which shall run with the land and shall effect the following conditions for each strata lot to be created, including the common property and any remainder:

(continue as for standard approval Form 5)

Form 7

SUBDIVISION REFUSAL TO CONSENT

Version Date: _____

File:
Date:

Applicant

_____

(address) _____

_____

Dear Sir/Madam

Re: Proposed Subdivision _____
(name of watercourse)

This letter is in reply to your correspondence dated _____, 20___. Under the authority of Section 86 of the *Land Title Act* or Section 3 of the Bare Land Strata Regulations, as amended, as the Approving Officer, consent for the approval of the above proposed plan of subdivision or the application for approval of the above proposed bare land strata plan is hereby withheld.

(If desired, give reason for decision by describing the flood hazard and continue as follows.)

In order for this decision to be reconsidered, the following steps would have to be taken:

1. A comprehensive engineering study would have to be undertaken to investigate the hazard and identify what (if any) engineering works could be constructed to suitably mitigate these hazards. Such works would likely be very costly.

2. Assuming suitable engineering works were identified, maintenance of such works by an ongoing authority must be arranged. The construction of the works would have to precede the approval of the proposed plan of subdivision or proposed bare land strata plan.

(Alternatively, you may wish to consider the submission of an alternate scheme in which lots are created outside the hazard area.)

If you require any further information, please contact _____.

Yours truly,

Approving Officer

cc: Building Inspector, local government

FORM C
(Section 219.81)

Province of
British Columbia
GENERAL INSTRUMENT-PART 1 (This area for Land Title Office Use) Page 1 of _____ p

1. APPLICATION: (Name, address, phone number and signature of applicant, applicant's solicitor or agent)

_____

(Signature of Authorized Ager

2. PARCEL IDENTIFIER(S) AND LEGAL DESCRIPTION(S) OF LAND:*
(PID) (LEGAL DESCRIPTION)

3. NATURE OF INTEREST:*

Description	Document Reference (Page and paragraph)	Person Entitled to Interest
Modification of Covenant		

4. TERMS: Part 2 of this instrument consists of (select one only)

(a)	Filed Standard Charge Terms	☐	D.F. No.
(b)	Express Charge Terms	☐	Annexed as Part 2
(c)	Release	☐	There is no Part 2 of this instrument

A selection of (a) includes any additional or modified terms referred to in Item 7 or in a schedule annexed to this instrument. If (c) is selected, the charge described in Item 3 is released or discharged as a charge on the land described in Item 2.

5. TRANSFEROR(S):*

6. TRANSFEREE(S): (Including postal address(es) and postal code(s)) *

7. ADDITIONAL OR MODIFIED TERMS: *

8. EXECUTION(S): ** This instrument creates, assigns, modifies, enlarges, discharges or governs the priority of the interest(s) described in Item 3 and the Transferor(s) and every other signatory agree to be bound by this instrument, and acknowledge(s) receipt of a true copy of the filed standard charge terms, if any.

Officer Signature(s)	Execution Date			Party(ies) Signature(s)
	Y	M	D	
				Name of Grantee under Covenant
				HER MAJESTY THE QUEEN IN RIGHT OF THE PROVINCE OF BRITISH COLUMBIA, by its authorized signatory
				Name of Municipality

OFFICER CERTIFICATION:
Your signature constitutes a representation that you are a solicitor, notary public or other person authorized by the *Evidence Act*, R.S.B.C. 1979, c. 116, to take affidavits for use in British Columbia and certifies the matters set out in Part 5 of the *Land Title Act* as they pertain to the execution of this instrument.

* If space insufficient, enter "SEE SCHEDULE" and attach schedule in Form E.
** If space insufficient, continue executions on additional page(s) in Form D.

MODIFICATION OF COVENANT NO.

THIS AGREEMENT made this _____ day of _____, 20__

BETWEEN: _____

_____

(hereinafter called the "Grantor")

OF THE FIRST PART

AND:

_____

_____

(hereinafter called the "Grantee")

OF THE SECOND PART

WHEREAS the Grantor is the registered owner in fee simple of the following lands in the Province of British Columbia, more particularly known and described as:

_____

_____

(hereinafter called the "Lands");

By an agreement dated as of the _____ day of _____, 20__ and registered in the _____ Land Title Office under Number(s) _____ against Lot _____, the Grantor granted a covenant, pursuant to section 219 of the *Land Title Act* of British Columbia, in favour of the Grantee (hereinafter called the "Covenant");

The parties hereto have agreed to modify and amend the Covenant, as hereinafter provided:

NOW THEREFORE THIS AGREEMENT WITNESSETH that in consideration of the sum of ONE DOLLAR ($1.00) of lawful money of Canada and other good valuable consideration paid by the Grantee to the Grantor, the receipt of which is hereby acknowledged, the Grantor does hereby covenant and agree with the Grantee under Section 219 of the Land Title Act of the Province of British Columbia as follows:

1. The Covenant is hereby modified and amended, effective as of the date hereof, as follows:

   a.

   b. etc.

2. This Agreement shall be read and construed in conjunction with the Covenant and, except as modified and amended by this Agreement, the Covenant shall continue in full force and effect.

3. This Agreement and everything contained herein shall be binding upon and enure to the benefit of the respective heirs, administrators, successors and assigns of the parties hereto.

IN WITNESS WHEREOF the parties hereto have executed this Agreement on the day and year first above written.

Signed by)
in the presence of:)
)
_____)
Witness) _____
) Grantor
)
_____)
Address)
)
_____)
Title or Occupation)

The common seal of _____)
)
_____)
)
was hereunto affixed in the presence of:) (c/s)
)
_____)
Authorized Signatory)

Signed on behalf of Her Majesty the Queen)
in Right of the Province of British Columbia)
as represented by the Minister of)
Transportation or his or her duly authorized)
designate in the presence of:)
)
_____)
Witness)
_____)
Witness)
_____)
Title or Occupation)

_____
Minister of Transportation or his or
her duly authorized designate

The Corporate Seal of the Grantee)
was hereunto affixed in the presence of:) (c/s)
)
_____)
)
_____)

STANDARD FORMAT – LEASE – DISPOSITION REFERRAL FORM

Version Date: _____

File:
Date:

Re: Lease or Disposition of _____

I have for reply your referral of _____, 20___, regarding an application _____ for _____ purposes, in the name(s) of _____ covering _____.

The Approving Officer recommends that the following conditions be written into the _____
_____.

OR

The Ministry recommends that the following conditions be written into the terms of the fee simple sale agreement and should be registered as a covenant under the provisions of Section 219 of the *Land Title Act* in perpetuity. Covenant conditions are to be registered with priority over any financial charges registered against the property.

(. . . . continue as for Form 5, Clauses 1 to 4 incl.)

If you require any further information, please contact: _____.

cc: _____

SUBDIVISION APPROVAL FORMAT
I OT LINE ADJUSTMENT

Version Date: _____

File:
Date:

Applicant
_____
_____
_____
_____

Dear Sir/Madam:

Re: Proposed Subdivision _____
(name of watercourse)

This letter is in reply to your correspondence of _____. As the Approving Officer, consent is hereby given, pursuant to Section 86 of the Land Title Act, for the approval of the above-mentioned plan of subdivision, subject to the applicant entering into a covenant registrable under Section 219, which shall run with the land and shall effect the following conditions for the proposed lot to be created and the remainder:

"1. Hereafter, no building, manufactured home or unit, modular home or structure, shall be constructed, reconstructed, moved, extended or located within _____ metres of the natural boundary of the (name of watercourse).

2. Hereafter, no area used for habitation, business, or storage of goods damageable by floodwaters shall be located within any building, modular home or structure at an elevation such that the underside of the floor system thereof is less than _____ metres above the natural boundary of (name of watercourse).

In the case of a manufactured home or unit, the ground level or top of concrete or asphalt pad on which it is located shall be no lower than the above described elevation.

3. The required elevation may be achieved by structural elevation of the said habitable, business, or storage area or by adequately compacted landfill on which any building is to be constructed or manufactured home or unit located, or by a combination of both structural elevation and landfill. No area below the required elevation shall be used for the installation of furnaces or other fixed equipment susceptible to damage by floodwater. Where landfill is used to raise the natura! ground elevation, the toe of the landfill slope shall be no closer to the natural boundary than the setback requirement given in condition (1) above. The face of the landfill slope shall be adequately protected against erosion from flood flows (wave action, ice, or other debris).

4. Conditions 1 to 3 above will not be enforced as conditions of subdivision approval unless a further subdivision is applied for, at which time these conditions will apply only to development on new lots created.

(continue as for standard approval format with 'save harmless', etc.)